

Red Line Harvard to Alewife

MBTA Capital Improvement Project FY2012-2017



■ Overview

■ Project scope

■ Project background

■ Basis for weekend work

■ Project details – 2012 Shutdowns

■ Water mitigation

■ Rail replacement

■ Project schedule



■ Project Scope

- \$34 million Capital Improvement Project (CIP)
FY 2012-2017
- CIP work will address remaining areas of the track infrastructure in need of repair including:
 - Continued rehabilitation of floating slab track structure including secondary pours and primary slabs
 - Continued water leak mitigation for the tunnel structure from Harvard to Alewife
 - Rail replacement for all curved track and selective tangent track areas
 - All third rail will be replaced



■ Project background

- Red Line tunnel from Harvard to Alewife was open for service in March of 1985
- Floating Slab track was built to reduce vibration impacts to abutments from train operations. It is the “gold standard” for vibration mitigation.
- Track construction – Floating Slabs are 9'x5' concrete blocks sitting on rubber disks which sits on the tunnel floor



■ Project background

- Due to limitations in funding, site access, windows of work, and type of work needed to correct infrastructure issues, a state of good repair has been difficult to maintain.
- Nearest point of access is a high rail truck pad 2.2 miles from Harvard Station near the Longfellow Bridge in Cambridge.
- All material must be brought in by rail.



■ Project background – Basis for Weekend Work

- Welding of new rail and installation of rail require large blocks of time
- Track concrete work will require 24 hours of curing time to reach adequate strength to safely run service
- Many locations for water mitigation will require 6 to 8 hours of dedicated time



- Project background – Basis for Weekend Work
 - Labor cost reduction through “Bus Picks”
 - Upcoming MBTA projects scheduled for work requiring shutdowns of train service will place a higher demand for busses
 - Red Line - Columbia Junction
 - Red Line - Longfellow Bridge Rehabilitation
 - Blue Line - Orient Heights Station



■ Project Details – Water Mitigation

- Water mitigation will be performed through a MBTA Design and Construction project
- Water leaks affecting the track structure will be mitigated over weekend shutdowns of service
- Due to the nature of water leak repair it is expected additional efforts will be required to “chase” the leaks



■ Project Details – Water Mitigation



■ Project Details – Rail Replacement

- Approximately 2,000 ft. of rail will be replaced under the CIP project for the four weekend shutdowns in 2012.
- Existing running rail will be removed.
- New running rail will be welded and installed.



■ Project Details – Rail Replacement



■ Project Schedule – CY 2012

- There will be four shutdowns of rail service in 2012.
- November 17th, November 24th, December 1st, and December 8th.
- Schedule was determined to minimize impact on the riding public and through coordination with other projects requiring busing service
- Train service will be replaced by shuttle bus service over these weekends

■ CY 2013 Project Schedule Approve Diversions; Nine (9) weekend shutdowns of rail service.

- October 26-27, 2013
- November 9-10, 2013
- November 16-17, 2013
- November 30-December 1, 2013
- December 7-8, 2013
- December 14-15, 2013
- December 21-23, 2013

